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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Application of

Applicant(s) : Rainer RUDOLPH et al.

Serial No. : 10/526,163

Filed : February 28, 2005

Title : METHOD FOR THE SYNTHESIS AND SELECTIVE BIOCATALYTIC  
MODIFICATION OF PEPTIDES, PEPTIDE MIMETICS, AND PROTEINS

Docket : WP22220US

Art Unit : TBD

Customer No. : 23690

Commissioner for Patents

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Serial No. 10/526,163  
Docket No. WP22220US

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Respectfully submitted,  
ROCHE DIAGNOSTICS OPERATIONS, INC.

Date: 10/6/05

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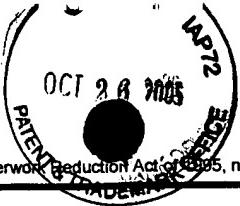
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## **INFORMATION DISCLOSURE STATEMENT BY APPLICANT**

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Sheet 1 of 3 Attorney Docket Number WP22220US

## **U.S. PATENT DOCUMENTS**

Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Application of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				
	1	EP 1201657 A1	5/2/2002	CNRS		
	2	EP 1348767 A2	10/1/2003	Hitachi Software Eng.		
	3	WO 02/26701 A2	4/4/2002	SCIONIX Limited		
	4	WO 02/26772 A1	4/4/2002	F. Hoffmann-La Roche AG		
	5	WO 02/38784 A1	5/16/2002	Solvent Innovation GMBH		

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## OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s) publisher city and/or country where published	T <sup>2</sup>
	6	Armstrong, D. et al., "Ionic Liquids as Matrixes for Matrix-Assisted Laser Desorption/Ionization Mass Spectrometry," Anal. Chem. 2001, 73, 3679-3686	
	7	Didziapetris, R. et al., "Penicillin acylase-catalyzed protection and deprotection of amino groups as a promising approach in enzymatic peptide synthesis," FEBS 09962, August 1991, Vol. 287, No. 1,2, p. 31-33	
	8	Bordusa, F., "Nonconventional amide bond formation catalysis: programming enzyme specificity with substrate mimetics," Brazilian Journal of Medical and Biological Research (2000) 33: 469-485	
	9	Cotton, G. et al., "Insertion of a Synthetic Peptide into a Recombinant Protein Framework: A Protein Biosensor," J. Am. Chem. Soc. 1999, 121, 1100-1101	
	10	Dawson, P. et al., "Synthesis of Proteins by Native Chemical Ligation," Science, Vol. 266, Nov. 4, 1994, p. 776-779	
	11	Erbeldinger, M. et al., "Enzymatic Catalysis of Formation of Z-Aspartame in Ionic Liquid- An Alternative to Enzymatic Catalysis in Organic Solvents," Biotechnol. Prog. 2000, 16, 1129-1131	
	12	Fotouhi, N. et al., "Peptide Synthesis by Prior Thiol Capture. 6. Rates of the Disulfide Bond-Forming Capture Reaction and Demonstration of the Overall Strategy by Synthesis of the C-Terminal 29-Peptide Sequence of BPTI," J. Org. Chem., 1989, 54, 2803-2817	
	13	Gordon, C. et al., "New developments in catalysis using ionic liquids," Applied Catalysis A: General 222 (2001) 101-117	
	14	Husun, T. et al., "Enzyme Catalysed Synthesis in Ambient Temperature Ionic Liquids," Biocatalysis and Biotransformation, Vol. 19, pp. 331-338	
	15	Imoto, T. et al., "Chemical Modification," A Practical Approach (T.E. Creighton ed.) pp. 247-277, IRL Press, 1989	
	16	Jackson, D. et al., "A Designed Peptide Ligase for Total Synthesis of Ribonuclease A with Unnatural Catalytic Residues," Science, Vol. 266, October 14, 1994. p. 243	
	17	Jakubke, H-D. et al., "Enzymatic Peptide Synthesis," The Peptides, Vol. 9, (Eds.: S. Udenfriend, J. Meienhofer), Academic Press, New York, 1987, Chapter 3	
	18	Kemp, D. et al., "Peptide Bond Formation by the Prior Amine Capture Principle," J. Org. Chem., VOL. 40, No. 23, 1975, p. 3465-3466	
	19	Kragl, U. et al., "Enzyme catalysis in the presence of ionic liquids," CHIMICA OGGI/chemistry today, July/August 2001, 3pp	
	20	Kullmann, W. et al., Enzymatic Peptide Synthesis, CRC Press, Boca Raton, 1987	
	21	Kullman, W. et al., "Proteases as Catalysts for Enzymic Synthesis of Opioid Peptides, The Journal of Biological Chemistry, Vol. 255, No. 17, September 10, 1980, p. 8234-8238	
	22	Laszlo, J. et al., "α-Chymotrypsin Catalysis in Imidazolium-Based Ionic Liquids," Biotechnology and Bioengineering, Vol. 75, No. 2, October 20, 2001	
	23	Liu, C-F et al., "Peptide segment ligation strategy without use of protecting groups," Proc. Natl. Acad. Sci. USA, Vol. 91, pp. 6584-6588, July 1994	
	24	MacBeath, G. et al., "Hydrolytic antibodies: variations on a theme," Chemistry & Biology 1996, Vol. 3, No. 6, p.433-445	
	25	Muir, T. et al., "Expressed protein ligation: A general method for protein engineering," Proc. Natl. Acad. Sci., Vol. 95, pp. 6705-6710, June 1998	
	26	Park, S. et al., "Biocatalysis in ionic liquids – advantages beyond green technology," Current Opinion in Biotechnology 2003, 14:432-437	
	27	Partk, S. et al., "Improved Preparation and Use of Room-Temperature Ionic Liquids in Lipase-Catalyzed Enantio – and Regioselective Acylations," J. Org. Chem. 2001, 66, 8395-8401	

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